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Commitment Devices: Using Initiatives to Change Behavior

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Commitment Devices: Using Initiatives to Change Behavior

Abstract

Unhealthy behaviors are responsible for a large proportion of health care costs and poor health outcomes.[1] Surveys of large employers regularly identify unhealthy behaviors as the most important challenge to affordable benefits coverage. For this reason, employers increasingly leverage incentives to encourage changes in employees' health-related behaviors. According to one survey, 81% of large employers provide incentives for healthy behavior change.[2] In this Viewpoint, we discuss the potential and limitations of an approach that behavioral science research has shown can be used to influence health behaviors but that is distinct from incentives: the use of commitment devices (Table).[3]

Disciplines

Applied Behavior Analysis | Behavior and Behavior Mechanisms

VIEWPOINT

Commitment Devices
Using Initiatives to Change Behavior

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Unhealthy behaviors are responsible for a large proportion of health care costs and poor health outcomes.[1] Surveys of large employers regularly identify unhealthy behaviors as the most important challenge to affordable benefits coverage. For this reason, employers increasingly leverage incentives to encourage changes in employees' health-related behaviors. According to one survey, 81% of large employers provide incentives for healthy behavior change.[2] In this Viewpoint, we discuss the potential and limitations of an approach that behavioral science research has shown can be used to influence health behaviors but that is distinct from incentives: the use of commitment devices (**Table**).[3]

Many people intend to improve their health behaviors in the future (eg, to exercise more, adhere to medication regimens, eat healthy diets, quit smoking), but when the future arrives, they fail to follow through.[4] People are not unaware of the challenges associated with achieving their goals: many take steps to precommit their "future selves" to follow-through. For example, those eager to exercise more may buy gym memberships with annual contracts so future visits will require no out-of-pocket expenses, or they will schedule exercise with workout partners so failing to show up will mean disappointing friends; persons with alcoholism may take disulfiram in the morning so drinking alcohol in the evening will make them ill. These are examples of commitment devices—many of which have no financial cost, but all of which deliberately limit future choices. Commitment devices attempt to enforce people's voluntarily imposed restrictions until they have accomplished their goals, or their voluntarily imposed penalties for failing to accomplish their goals.

A common form of commitment device, also sometimes called a deposit contract or commitment contract, involves people voluntarily depositing money into accounts that they can access again only if they accomplish a goal. Commitment devices like this have been shown to help people lose weight, improve their diets, exercise more, and quit smoking. One randomized study, for example, found that access to a commitment device increased the rate at which smokers succeeded in quitting after 6 months by 40%.[5]

Commitment devices have 2 basic features. First, people voluntarily elect to use them. This means people must be self-aware enough about the gap between their current goals and their likely future behaviors to recognize the value of taking steps to limit their future choices and actions. Many people are unaware of this gap and therefore fail to use commitment devices. Second, commitment devices associate consequences with people's failures to achieve their goals.

Commitment devices can be associated with a spectrum of consequences. *Immutable* consequences cannot be reversed by future choices. For example, if a person with alcoholism takes disulfiram, she imposes an unavoidable future physiological consequence on herself (vomiting) if she later fails to abstain from alcohol. Similarly, seeking care at a substance abuse or psychiatric facility can limit choice, because one is typically not permitted to leave until certain goals are achieved. Other commitment devices involve immutable monetary consequences in which people risk losing their own money if by a predetermined date an independent assessor reports that these people did not accomplish their goals.

Commitment devices involving *mutable* consequences constrain future behaviors while also allowing people the future latitude to mitigate the consequences. For example, purchasing unhealthy foods in small portions can reduce food intake, purchasing only small plates for home use or at a buffet can limit portion sizes, purchasing gym memberships can reduce the visible costs of each gym visit, and ordering groceries in advance can reduce the likelihood of purchasing unhealthy foods when shopping while hungry.[6] Similarly, temptation bundling, or allowing people to restrict their access to instantly gratifying experiences (eg, watching TV) *only* to occasions when they engage in goal-consistent behaviors (eg, exercising), is a form of mutable commitment device that increases gym attendance.[7]

Building Better Commitment Devices to Improve Health

Commitment devices may be powerful tools for changing health behaviors, but they are underused. For health professionals and patients to get more value out of commitment devices, several areas of research must be advanced. Specifically, maximizing the population health benefits of commitment devices requires increasing the proportion of people who use these devices and increasing their effectiveness.

Increasing Uptake

Commitment devices can only help those who use them. Uptake rates in research on commitment devices have been as low as a few percentage points, for example.[5] This low uptake could in part be attributable to a lack of patient awareness about the gap between intentions and future behaviors. If so, health professionals could be instrumental in educating patients about this gap. Behavioral science techniques could also be used to increase uptake. For example, requiring patients to opt out of commitment devices, rather than attempting to con-

Table. Examples of Commitment Devices

Strategy	Description	Health Goal
Put money in a deposit contract	Forfeit money by failure to achieve a specific goal by a given date (eg, quitting smoking within 6 mo, losing 5 lb within 2 mo)	Any
Engage in temptation bundling	Restrict access to instantly gratifying experiences (eg, watching TV) only to occasions when engaging in goal-consistent behaviors (eg, exercising)	Any
Purchase vices in small packages	Limit portion sizes for unhealthy items (eg, cigarettes, junk food, alcohol)	Reduce consumption
Purchase small plates	Limit food portion sizes	Reduce consumption
Order groceries online	Avoid purchasing unhealthy foods on impulse	Improve diet
Take disulfiram	Ensure that drinking alcohol in the future will cause illness	Treat alcoholism
Seek care at a treatment center	Ensure no access to addictive substances (eg, alcohol, drugs) until professionals deem a patient ready	Treat addiction
Purchase an annual gym membership	Ensure future gym visits will not require out-of-pocket payment	Increase exercise
Schedule workouts with an exercise partner	Disappoint a friend by failure to visit the gym	Increase exercise

vince patients to proactively opt in, could increase uptake. Opt-out policies have been shown to increase enrollment in programs such as organ donation and 401(k) savings plans and could similarly increase commitment device participation. Making enrollment and participation as simple as possible by eliminating unnecessary complexity could also facilitate greater uptake of commitment devices. In addition, as people become more experienced with commitment devices, researchers will need to develop strategies for helping patients who did not meet their past goals (and thus experienced the negative consequences of commitment devices) elect to reuse commitment devices despite their previous experiences.

Increasing Effectiveness at Minimal Cost

For commitment devices to meaningfully improve population health they will need to be engineered to be more effective. First, many health-relevant goals require changing long-term behavior even after an initial objective has been achieved (ie, weight loss, medication adherence, and addiction management). More research should examine whether and how commitment devices can be effective maintenance tools, capable of assisting with long-term behavior change. Expanding the use of commitment devices to facilitate health maintenance will likely require novel strategies for maintaining people's engagement and attention at key moments when drop-off or discontinuation is a risk. Second, commitment devices can be engineered to provide positive feedback as soon as people begin using them. This will involve guiding people to choose challenging but achievable initial goals; developing mechanisms to keep those goals salient at critical moments; and leveraging advances in wireless technologies to make dynamic feedback easier, cheaper, and timelier. Developing commitment devices so their associated penalties involve a range of consequences (beyond just monetary losses) will likely increase their appeal. One promising direction for future commitment device research involves leveraging the influence of existing social networks. Commitment devices that involve these networks by creating social consequences for failing to achieve goals (ie, disappointing exercise partners, having family members informed when patients do not adhere to medication regimens) can be implemented inexpensively.

Conclusions

Patients are more successful at achieving their health goals when they have access to commitment devices, and commitment devices are usually inexpensive to provide. However, uptake and ongoing participation rates in commitment devices are often low. Although there have been some studies of highly effective commitment devices, strategies for achieving higher rates of ongoing engagement and sustained behavior change are needed for this tool to have wide-scale influence and benefit. Leveraging existing social networks may be a potential low-cost means of achieving and sustaining healthier behaviors through commitment devices.

ARTICLE INFORMATION

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